

STP-120 Power Inverter

Model STP-120 **120 Watt Portable Power inverter** With Car/Airplane adapter and USB & AC 110/120V Power Output



© 2007 Sima Products Corporation
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PN21751

User's Manual
Register your product at
www.simaproducts.com



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Notes

Limited Warranty

Sima Products Corporation ("Company") warrants that if the accompanying product proves to be defective to the original purchaser in material or workmanship within 90 days from the original retail purchase, the Company will, at the Company's option, either repair or replace same without charge (but no cash refund will be made). If the product is returned within three (3) years from the original date of purchase, the Company will repair the unit, however, a labor-only fee will be charged. The Company will not charge a fee for any parts used in the repair. The Company will notify you of any fees to be assessed prior to servicing the unit.

What you must do to enforce Warranty: You must deliver, mail or ship the product, together with the original bill of sale and this limited Warranty statement as proof of warranty coverage to:

Sima Products Corporation
Attn: Customer Service
140 Pennsylvania Ave., Bldg. #5,
Oakmont, PA 15139

It is recommended that you call **Sima Products Corporation** at **800-345-7462** before sending the unit in for service.

Limitation of Liability and Remedies

Sima Products Corporation shall have no liability for any damages due to lost profits, loss of use or anticipated benefits, or other incidental, consequential, special or punitive damages arising from the use of, or the inability to use, this product, whether arising out of contract, negligence, tort or under any warranty, even if **Sima Products Corporation** has been advised of the possibility of such damages. **Sima Products Corporation's** liability for damages in no event shall exceed the amount paid for this product. **Sima Products Corporation** neither assumes nor authorizes anyone to assume for it any other liabilities.

Important Safety instructions

To reduce the risk of injury, user must read and understand this instructional manual. This manual contains important information regarding the operation and warranty of this product. Please keep for future reference.

Please read all the Cautions and Warnings before installing and using the power inverter.

**THE INVERTER MUST BE
PROPERLY INSTALLED AND
OPERATED ONLY AS DESCRIBED IN
THIS USER MANUAL**

Warnings & Cautions

To reduce the risk of fire, electric shock, explosion or injury:

- Do not connect to AC distribution wiring.
- Remove appliance plug from outlet strip or turn off inverter before working on the appliance. Power strips with switches and circuit breakers only interrupt power to the “hot” receptacle terminals. The “neutral” terminals remain powered with respect to the ground terminals.
- Not approved for ignition protected areas. Do not make any electrical connections or disconnections in areas designated as IGNITION PROTECTED. This includes DC cigarette lighter adapter or airplane adapter.
- Do not operate the inverter near flammable materials, fumes or gases.
- Provide adequate ventilation and refrain from placing items on or around the inverter during operation.
- Proper cooling is essential when operating the inverter. Do not place the unit near the vehicle's heat vent or in direct sunlight.

Specifications

Max continuous power	120 Watts
Max Surge capacity (Peak power)	240 watts
No load current draw	<0.3A
Waveform	Modified sine wave
Operating Input Voltage Range	11-15 volts DC
AC receptacle	110/120V AC (3 prong grounded)
Approximate Dimensions	4.4" x 2.6" x .8"
Approximate weight	4.4 oz

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Troubleshooting

Common power problems	
Possible causes	Recommendations
Battery voltage below 9.5 – 10.5 volts	Recharge battery or check DC power supply
Equipment being operated draws too much power	Reduce load to maximum of 120 watts
Inverter in thermal shutdown condition	Allow the inverter to cool. Be sure there is adequate ventilation around the unit. Make sure the load is no more than 120 watts for continuous operation

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- NEVER immerse the unit in water or any other liquid or use when wet.
- DO NOT insert foreign objects into the AC outlet or the USB outlet.
- DO NOT attempt to connect or set up the unit or its components while operating your vehicle. Divided attention while driving may result in a serious accident.
- This is not a toy, keep away from children.

Cautions

- The STP-120 generates 115 Volts AC power from your 12 volt car battery. Treat the 115 Volt AC output just like you treat the 115 Volt AC in your house. It is just as dangerous. Keep away from children.
- With heavy use, the unit will become warm and possibly hot. Keep it away from any heat sensitive materials.
- Always turn the inverter off by disconnecting it from the DC accessory outlet when not in use.

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- This inverter will not operate high wattage appliances that produce heat such as hair dryers, microwave ovens and toasters.
- Do not use with a positive ground electrical system. Reverse polarity connection will result in a blown fuse and may cause permanent damage to the inverter. The majority of cars, trucks, RVs and boats in the U.S. are negative ground.
- This inverter is not tested for use with medical devices.
- Do not open the inverter. There are no user-serviceable parts.
- Do not connect the unit to AC distribution wiring.
- Keep away from water. Do not allow water to drip or splash on the STP-120.
- Keep the unit in cool environments. Ambient air temperature should be between 40° and 80° F. Always use where there is adequate ventilation. Do not block vent holes.
- Keep the unit away from flammable material or in any location which may accumulate flammable fumes or gases, such as the battery compartment of your car, boat, RV or truck.

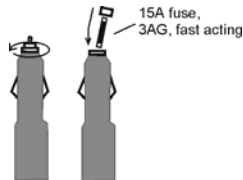
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Fuse Replacement

Cigarette Plug fuse

If you overload the STP-120, it is possible to blow the fuse in the cigarette plug. If this happens, unplug the cigarette plug from the power source, wait for the tip to cool and unscrew the metal tip on the plug. Remove the tip. Remove the fuse and install a new fuse rated at 15 amps as shown below. **Never use a fuse greater than 15 amps.** Replace the tip and screw firmly but do not over tighten.

Note: Always determine why the fuse blew and remedy the problem before using the STP-120 again.



Protective Features

The inverter monitors these conditions:

Low Battery Voltage – This condition is harmful to the inverter, but could damage the power source, so the inverter will automatically shut down when the input voltage drops below 9.5 – 10.5 volts DC.

Input Voltage Too High – The inverter will automatically shut down when the DC input exceed 15 volts.

Thermal Shutdown – The inverter will automatically shut down when the unit becomes over heated.

Overload/Short circuit Protection – The inverter will automatically shutdown when a short circuit occurs.

The STP-120 is designed for high-efficiency operation to provide the most output with the least battery power usage.

Advanced protection

- **Thermal Protection** shuts the unit off to guard against the unit getting too hot
- **Overload Protection** protects the unit from excessive loads
- **Under Voltage Protection** turns the unit off to protect the battery from being over discharged

This Sima power inverter produces a modified sine wave output which is suitable for most AC loads. This includes lights, appliances, motors, TVs and most electronics.

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CAUTION: There are a few battery chargers that are not compatible with modified sine wave operation. These are typically small rechargeable, battery-operated devices like razors and flashlights that can be plugged directly into an AC receptacle to recharge.

Some chargers for battery packs used in power tools also should not be used with an inverter. These chargers typically have a warning label indicating that dangerous voltages are present at the battery terminals. Only a true sine wave inverter should be used with these types of appliances. Damage to the device could result if you attempt to use them with any type of modified sine wave inverter.

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Operation of the USB Power port

1. Connect the Power Cord to the Inverter
2. Connect either the 12V DC car adapter or the 12V DC airplane adapter to the end of the 12V power cord.
3. Insert the selected adapter plug into a vehicle DC accessory outlet or airplane power outlet. Make sure there is good contact. Some vehicles require the ignition to be switched on.
4. Plug the USB-powered device into the inverter's USB power port and operate normally.

Note: the inverter's USB port does not support data communications. It only provides 5 volts/500 mA DC power to an external USB-powered device. USB power is always on when the power cord is connected. **Remember to disconnect the power cord from any power source when the unit is not in use.**

Operation of the 110/120V AC outlet

1. Connect the power cord to the inverter
2. Connect either the 12V DC car adapter or the 12V DC airplane adapter to the end of the 12V power cord.
3. Insert the selected adapter into the car's DC accessory outlet or airplane DC power outlet. Make sure there is good contact.
4. The green power LED will turn on, indication a proper connection. Some vehicles require the ignition switch to be turned on.
5. Plug the appliance into the inverter' 3-prong AC outlet and operate normally.

Note: the inverter will not operate appliances and equipment that generate heat such as hair dryers, electric blankets, microwave ovens and toasters.

Introduction

Thank you for purchasing the Sima's new portable power inverter. This inverter can be used to operate personal electronics and mobile office equipment such as laptop computers, digital/video cameras, MP3 players, cell phones, PDAs and more. It can also be used to charge 110/120V AC devices that have an appropriate recharging adapter with a standard North American 3-prong plug. Please read this user manual carefully to ensure optimum performance and avoid damage to this product.

Features

- 120 Watt output
- Electronic circuit protection prevents damage due to overload/insufficient ventilation (overheating)
- Low battery production – unit automatically shuts down when battery discharges below 10.5+/-0.5 V.

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- Automotive and airplane 12V DC adapters
- 5 V DC USB port
- Bi-color Power/Fault LED



1. BI-COLOR POWER/FAULT LED
2. HIGH SPEED COOLING FAN
3. USB POWER PORT
4. STANDARD NORTH AMERICAN 110/120-VOLT AC OUTLET
5. 12-VOLT DC ADAPTER INPUT TERMINAL
6. 12-VOLT DC VEHICLE ACCESSORY ADAPTER
7. EM 12-VOLT DC AIRPLANE CORD

- Compact size – efficient and quiet

STP-120 **Power Inverter** **Operating instructions**

Once properly connected to a 12V DC power source, the bi-color LED indicator will light up green when the power is on.

ALWAYS TURN THE INVERTER ON BEFORE THE CONNECTED DEVICES

The standard 110/120 V AC and USB outlets allow the user to operate multiple devices at the same time. Simply plug the equipment into the unit and operate normally. Be sure that all of the equipment plugged into the power inverter does not exceed 120 Watts continuous.

For safety reasons, the inverter will simply shut down if it is overloaded. To restart the unit, simply re-insert the 12V cigarette lighter plug.